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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,583	02/27/2004	Sam S. Lightstone	CA920030120US1	6838

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INTERNATIONAL BUSINESS MACHINES CORP
IP LAW
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EXAMINER

LEROUX, ETIENNE PIERRE

ART UNIT	PAPER NUMBER
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2161

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/788,583

Applicant(s)

LIGHTSTONE ET AL.

Examiner

Etienne P. LeRoux

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-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/27/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Status

Claims 1-19 are pending. Claims 1-19 are rejected as detailed below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8-11 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 6,397,207 issued to Bleizeffer et al (hereafter Bleizeffer) in view of Pub No US 2004/0003004 issued to Chaudhuri et al (hereafter Chaudhuri).

Claims 1, 8 and 14:

Bleizeffer discloses
estimating a cost to execute the queries [query explain data, col 2, line 22-30];
selecting a sub-set of queries from the workload according to a threshold level, the threshold level being a function of the estimated cost to execute the queries [higher than average statement cost, col 2, line 27];

Bleizeffer discloses the elements of the claimed invention as noted above but does not disclose compressing the selected sub-set of queries. Chaudhuri discloses compressing the selected sub-set of queries [Fig 3, paragraph 35]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bleizeffer to include compressing

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the selected sub-set of queries as taught by Chaudhuri for the purpose of reducing the workload by removing redundant or similar queries [claim 10].

Claims 2, 9 and 15:

The combination of Bleizeffer and Chaudhuri discloses the elements of claim 1/8/14 as noted above and furthermore discloses the step of selecting includes selecting from the queries in decreasing estimated cost of execution rank order such that an aggregate estimated cost of execution for the selected queries is less than equal to the threshold [Chaudhuri, paragraph 35, priority queue]

Claim 3:

The combination of Bleizeffer and Chaudhuri discloses the elements of claim 1 as noted above and furthermore discloses wherein the cost of execution is a function of a parameter selected from the group consisting of estimated execution time of a query, amount of computer memory required for execution of a query, amount of I/O usage required for execution of a query, amount of CPU utilization required for execution of a query, and throughput contribution required for execution of a query and combination thereof [Bleizeffer, paragraph 2, lines 7-14]

Claims 4, 10 and 16:

The combination of Bleizeffer and Chaudhuri discloses the elements of claim 1/8/14 as noted above and furthermore discloses wherein the cost of execution is a function of any of: a frequency/weighting component associated with each query; an estimated time of execution for each query; an amount of computer memory required for execution of a query; an amount of I/O usage required for execution of a query; an amount of CPU utilization required for execution of a

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query; and, an amount of throughput contribution required for execution of a query [Chaudhuri, paragraph 8]

Claims 5, 11 and 17:

The combination of Bleizeffer and Chaudhuri discloses the elements of claim 1/8/14 as noted above and furthermore discloses wherein the threshold is derived from any of: a percentage of a total execution time of the workload; an allotted execution time for the workload; a determination made by applying successive approximations techniques; and a determination made when an allotted threshold selection time has been reached [Chaudhuri, paragraph 27, queries taking longer than one second are logged].

Claims 6, 7, 12, 13, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bleizeffer and Chaudhuri and further in view of US Pat No 5,960,428 issued to Lindsay et al (hereafter Lindsay).

Claims 6, 12 and 18:

The combination of Bleizeffer and Chaudhuri discloses the elements of claims 1/8/14 as noted above but does not disclose wherein the step of selecting further comprising sub-dividing the plurality of queries into groups of queries based upon query types wherein the threshold applied to a group of queries is a percentage of a total estimated cost of execution for the group of queries. Lindsay discloses wherein the step of selecting further comprising sub-dividing the plurality of queries into groups of queries based upon query types wherein the threshold applied to a group of queries is a percentage of a total estimated cost of execution for the group of queries [col 2, lines 45-60]. It would have been obvious to one of ordinary skill in the art at the

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time the invention was made to modify the above combination of references to include wherein the step of selecting further comprising sub-dividing the plurality of queries into groups of queries based upon query types wherein the threshold applied to a group of queries is a percentage of a total estimated cost of execution for the group of queries as taught by Lindsay for the purpose of efficient evaluation and execution of SQL queries [col 2, lines 48-50].

Claims 7, 13 and 19:

The combination of Bleizeffer, Chaudhuri and Lindsay disclose the elements of claims 1/8/14 as noted above and further ore discloses wherein the threshold applied to a group of queries is derived from an allotted execution time for the group of queries [Chaudhuri, abstract]

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne P. LeRoux whose telephone number is (571) 272-4022. The examiner can normally be reached on Monday through Friday between 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Etienne LeRoux

8/8/2006

EP LeRoux

Primary Examiner